Peanut Butter & Jelly Archeology

SUMMARY

Students will examine the principle of stratigraphy by building an edible archeological site.

OBJECTIVES

At the end of this activity, each student should be able to:

- · demonstrate how time is recorded in layers
- define and demonstrate stratigraphy
- explain how stratigraphy can be destroyed through human intervention

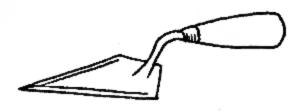
BACKGROUND

Stratigraphy is defined as the arrangement of rocks or materials in layers. As layers are deposited, the oldest is usually on the bottom and the youngest on top. By examining materials found in these layers and their relationships to each other, archeologists can determine what artifacts are older or younger than others.

A habitation site is a place where people have lived. Prehistoric habitation sites may be marked by postholes, cooking pits, middens (trash pits), or broken pottery or other artifacts.

SUGGESTED PROCEDURE

- To keeps costs minimal, have students bring the ingredients from home.
- Tell the students they are going to conduct an experiment in archeology and then eat it. Pair the students and have each pair obtain a paper plate with the listed materials.
- Use the following narrative to tell the students what is occurring:





- Subject: archeology
- Duration: 45-60 minutes
- Setting: In classroom, before or after a visit to the park
- Materials:

For each student:

3 slices of bread

3T. of jam or jelly

2T. of peanut butter
raisins
sprinkles
2 paper plates
hard candies or M&M's
plastic knife
plastic spoon
large straw
napkins

Teacher Tip

This list of ingredients is only a suggestion.
Substitutions can be made.
We have used chocolate chips instead of raisins, and cake frosting instead of peanut butter for children that have food allergies.
Try adding gummy worms, just for fun!

Peanut Butter and Jelly Narrative:

- I. Here we have a field somewhere in southern Ohio. (Lay down a slice of bread.)
- 2. Along comes a flood and leaves behind a layer of mud. (Spread the peanut butter.)
- 3. Shortly after the flood, a group of Archaic people camp in the area and build a fire. Their fire leaves behind charcoal and rocks that crack from heat. (Have students slice raisins in half and arrange them in a circle on the sandwich, and sprinkle chocolate sprinkles inside the circle.)
- 4. The Archaic people depart and through time, a layer of dirt and rock form over the campsite. (Lay down another piece of bread.)
- 5. Eventually another group, this time the Hopewell culture, comes to the same field. The people build shelters. (Have students gently cut small indentations or holes in the last slice of bread. These represent the holes dug to hold posts for the shelters.)
- The Hopewell make pottery. But some pottery does get broken. (Have students dig two more small holes in the top of the bread, one on each side).
- 7. Into these holes they throw the broken "pottery" (broken M & M's or candies).
- 8. The Hopewell leave the site and because it is close to the river, the site is flooded. (Students spread jelly, which may cause some redistribution of pottery, a situation which can also occur on a real site.)
- Through time, other layers are laid down until the present and the final layer of dirt covers the site. (Students put on top layer of bread.)
- 10. After the students finish making their "sites" or sandwiches, have them exchange sites. Tell them as time passes the land changed hands to other American Indian groups and to the European settlers. (Optional)
- II. Today, an archeologist suspects this field was a prehistoric habitation site and conducts random core samples and surveys. (Have students push large straws randomly through their sandwiches. If they find a sprinkle or hit something, they may have found a habitation site.)
- 12. The archeologist conducts a test excavation at the site. (Students cut a square into the sandwich and remove layers, one by one. If they find something, they have found the habitation site.)
- 13. From the test unit, students can see their layers. This is stratigraphy. Ask the students to identify the oldest layer. Which habitation site is older? This is similar to what happens when archeologists examine the site.

ASSESSMENT

Ask students if they could read their layers if they put the sandwich in the blender. Explain to the students that this is what happens when we plow, loot, or bulldoze a habitation site. To fully excavate this site, students would have to remove each layer, layer by layer. Would they have the sandwich then? Excavation is a destructive process. For the final excavation, students may divide and eat their sandwiches, either layer by layer or all at once. (Alternatively, if they eat it all at once, and find a pottery shard before it is eaten, it may be considered salvage archeology, or archeology done in the face of impending loss. If it gets in their mouth before they "discover" it, it is lost in the action of modern use.)

